

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 10

REMARKS

Claims 100-105 and 113-126 are pending in the subject application. Claims 116-119 are allowed. Claims 100-105, 113-115 and 120-126 are finally rejected. Applicants have hereinabove amended claims 100, 101, 113-115, 120 and 121. Accordingly, upon entry of this Amendment, claims 100-105 and 113-126 will still be pending and under examination.

Applicants maintain that the amendments to claims 100, 101, 113-115, 120 and 121 do not raise any issue of new matter, and that these claims, as amended, are fully supported by the specification as originally filed. Claims 114 and 115 were amended merely to present format changes. Support for the claim amendments is found, *inter alia*, in the specification as follows: **Claims 100 and 101**: page 52, lines 23-28; **Claim 113**: page 92, lines 29-33; **Claim 120**: page 22, lines 9-26; and **Claim 121**: page 92, lines 29-33.

Entry of this Amendment is respectfully requested as it is believed to place the application in condition for allowance, or, at a minimum, to materially reduce the issues on appeal.

In view of the arguments set forth below, applicants maintain that the Examiner's rejections made in the December 15, 2003 Final Office Action have been overcome, and respectfully requests that the Examiner reconsider and withdraw same.

Claim Rejection Under 35 U.S.C. §112, Second Paragraph

The Examiner states that claims 100-105 are rejected under 35 U.S.C. §112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner states that claim 100-105 are indefinite because they do not recite the specific hybridization conditions which applicants regards as being specifically hybridizing to a nucleic acid sequence of SEQ ID NO:1. The Examiner also states that whether or not specific hybridization occurs is a function of the hybridization conditions such as specific ionic strength, specific temperature, specific number of washings, etc. and therefore "hybridizes specifically" or "specifically hybridizes" as recited in the claims encompass a variety of conditions which will vary depending on the specific nucleotide sequence structures which are being claimed, i.e., length of sequences, G/C content of sequences, number and amount of competing or similar sequences in a particular sample. The Examiner further states that these claimed hybridizing sequences can only be adequately defined by specifically reciting hybridizing conditions.

In response to the Examiner's rejection, but without conceding the correctness thereof, applicants note that claims 100 and 101 have been amended. Claims 100 and 101 now recite, in part, "wherein the probe so hybridizes under hybridization conditions which are either i) 65°C in hybridization buffer followed by washing twice in 1xSSPE/1% SDS and twice in 0.1xSSPE/1% SDS at 42°C or ii)

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 12

65°C in hybridization buffer and washing twice in 1xSSPE/0.5% SDS at 42°C and twice in 0.1xSSPE/0.5% SDS at 50°C." Thus, the Examiner's rejection of claims 100-105 is obviated.

In view of the above remarks, applicants maintain that amended claims 100-105 satisfy the requirements of 35 U.S.C. §112, second paragraph.

Claim Rejection Under 35 U.S.C. §102(a)

The Examiner rejected claims 100-102, 113-115 and 120-121 under 35 U.S.C. §102(a) as allegedly anticipated by Sulavik et al. ("Sulavik"). According to the Examiner, Sulavik discloses GenBank sequence accession number M89776 (pages 3579 and 3582) whose nucleotides encode amino acids 60-67 of instant SEQ ID NO:2. The Examiner states that an eight amino acid peptide is of sufficient length to be antigenic, and that this entire sequence can selectively hybridize to SEQ ID NO:1 under very low stringency conditions since the conditions recited in the instant claim are not defined.

In response to the Examiner's rejections to claims 100-102, but without conceding the correctness thereof, applicants note that claims 100 and 101 have been amended. Claims 100 and 101 now recite, in part, "wherein the probe so hybridizes under hybridization conditions which are either i) 65°C in hybridization buffer followed by washing twice in 1xSSPE/1% SDS and twice in 0.1xSSPE/1% SDS at 42°C or ii) 65°C in hybridization buffer and

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 13

washing twice in 1xSSPE/0.5% SDS at 42°C and twice in 0.1xSSPE/0.5% SDS at 50°C."

Sulavik fails to anticipate the claimed invention since it does not teach each and every element set forth in amended claims 100 and 101 and dependent claim 102.

Sulavik teaches a 1,417 bp nucleotide sequence encoding a *Streptococcus gordonii* glucosyltransferase ("gtfG") gene sequence. Sulavik does not teach that its small 24 bp nucleotide sequence of the *S. gordonii* gtfG gene which encodes the AFLDELKA octapeptide to "hybridize specifically" to a nucleic acid having a sequence set forth in SEQ ID NO:1 under the hybridization conditions now recited in amended claims 100 and 101. Applicants point out that the 24 bp nucleotide sequences encoding the AFLDELKA octapeptide in gtfG and PSM antigen are actually only 75% identical (6 nucleotide mismatches out of the total 24 nucleotides). In light of the mismatch, the small size of the 24 bp nucleotide sequence taught by Sulavik, and the hybridization condition recited in amended claims 100 and 101, the relevant 24 bp nucleotide sequence taught by Sulavik would be more inclined to hybridizes to a variety of other sequences, including, for example, the gtfG gene itself from *S. gordonii* and homologous genes from other organisms. Thus, the small 24 bp nucleotide sequence of the *S. gordonii* gtfG gene which encodes the AFLDELKA octapeptide would not "hybridize specifically" to a nucleic acid having a sequence set forth in SEQ ID NO:1. Therefore, Sulavik fails to anticipate the claimed invention as set forth in amended claims 100 and 101 and dependent claim 102.

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 14

In response to the Examiner's rejection to claim 113, but without conceding the correctness thereof, applicants note that claim 113 has been amended. Claim 113 now recites, in part, "wherein the isolated nucleic acid is further characterized by being able to hybridize specifically to the nucleic acid sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto under hybridization condition of either i) 65°C in hybridization buffer followed by washing twice 1xSSPE/1% SDS and twice in 0.1xSSPE/1% SDS at 42°C or ii) 65°C in hybridization buffer and washing twice in 1xSSPE/0.5% SDS at 42°C and twice in 0.1xSSPE/0.5% SDS at 50°C."

Sulavik fails to anticipate the claimed invention since it does not teach each and every element set forth in amended claim 113.

Sulavik does not teach that a small 24 bp nucleotide sequence of the *S. gordonii* gtfG gene which encodes the AFLDELKA octapeptide to "hybridize specifically" to a nucleic acid having a sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto under the hybridizing conditions now recited in amended claim 113. Again, applicants point out that the 24 bp nucleotide sequences encoding the AFLDELKA octapeptide in gtfG and PSM antigen are actually only 75% identical (6 nucleotide mismatches out of the total 24 nucleotides). In light of the mismatch, the small size of the 24 bp nucleotide sequence taught by Sulavik, and the hybridization condition recited in amended claim 113, the relevant 24 bp nucleotide sequence taught by Sulavik

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 15

would be more inclined to hybridizes to a variety of other sequences, including, for example, the gtfG gene itself from *S. gordonii* and homologous genes from other organisms. Thus, the small 24 bp nucleotide sequence of the *S. gordonii* gtfG gene which encodes the AFLDELKA octapeptide would not "hybridize specifically" to a nucleic acid having a sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto. Therefore, Sulavik fails to anticipate the claimed invention as set forth in amended claims 113.

In response to the Examiner's rejection to claims 114 and 115, but without conceding the correctness thereof, applicants note that claims 114 and 115 have been amended. Claims 114 and 115 now recite, in part, "(B) characterized by antigenicity and the presence within it of each of the following sequences: (a) Asp-Glu-Leu-Lys-Ala-Glu (SEQ ID NO: 35); (b) Asn-Glu-Asp-Gly-Asn-Glu (SEQ ID NO: 36); and (c) Lys-Ser-Pro-Asp-Glu-Gly (SEQ ID NO: 37)."

Sulavik fails to anticipate the claimed invention since it does not teach each and every element set forth in amended claims 114 and 115.

Sulavik teaches a nucleic acid sequence encoding the AFLDELKA octapeptide as alleged by the Examiner. In order for Sulavik to anticipate the claimed invention as set forth in amended claims 114 and 115, the relevant 24 bp nucleotide sequence taught by Sulavik must have a nucleic acid sequence which encodes for an antigenic PSM antigen polypeptide containing SEQ ID NO:35, SEQ ID NO:36

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 16

and SEQ ID NO:37. The 24 bp nucleotide sequence taught by Sulavik does not have a nucleic acid sequence encoding a polypeptide sequence of SEQ ID NO:35, SEQ ID NO:36 and SEQ ID NO:37. Thus, Sulavik does not teach an isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide characterized by the presence within it of each of the following sequences: SEQ ID NO:35, SEQ ID NO:36 and SEQ ID NO:37. Therefore, Sulavik fails to anticipate the claimed invention as set forth in amended claims 114 and 115.

In response to the Examiner's rejection to claim 120, but without conceding the correctness thereof, applicants note that claim 120 has been amended. Claim 120 now recites, in part, "and the antigenic fragment comprises consecutive amino acids having a sequence selected from the group consisting of SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37 and SEQ ID NO:38, provided that if the antigenic fragment comprises consecutive amino acids having the sequence set forth in SEQ ID NO:35, the antigenic fragment further comprises at least one additional amino acid present in SEQ ID NO:2, provided that the sequence of the antigenic fragment is included within SEQ ID NO:2."

Sulavik fails to anticipate the claimed invention since it does not teach each and every element set forth in amended claims 120.

Sulavik teaches a nucleic acid sequence encoding the AFLDELKA octapeptide as alleged by the Examiner. In order for Sulavik to anticipate the claimed invention as

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 17

set forth in amended claim 120, the relevant 24 bp nucleotide sequence taught by Sulavik must have a nucleic acid sequence of an antigenic fragment of prostate specific membrane antigen comprising consecutive amino acids having a sequence selected from the group consisting of SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37 and SEQ ID NO:38, provided that if the antigenic fragment comprises consecutive amino acids having the sequence set forth in SEQ ID NO:35, the antigenic fragment further comprises at least one additional amino acid present in SEQ ID NO:2, provided that the sequence of the antigenic fragment is including within SEQ ID NO:2. Sulavik does not teach the above. Rather, Sulavik teaches that its relevant 24 bp nucleotide sequence does not encode for a polypeptide having either SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37 or SEQ ID NO:38. Therefore, Sulavik fails to anticipate the claimed invention as set forth in amended claim 120.

In response to the Examiner's rejection to claim 121, but without conceding the correctness thereof, applicants note that claim 121 now recite, in part, "wherein the isolated nucleic acid is further characterized by being able to hybridize to the nucleic acid sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto under hybridization conditions of either i) 65°C in hybridization buffer followed by washing twice in 1xSSPE/1% SDS and twice in 0.1xSSPE/1% SDS at 42°C or ii) 65°C in hybridization buffer and washing twice in 1xSSPE/0.5% SDS at 42°C and twice in 0.1xSSPE/0.5% SDS at 50°C."

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 18

Sulavik fails to anticipate the claimed invention since it does not teach each and every element set forth in amended claims 121.

Again, the relevant 24 bp nucleotide sequence taught by Sulavik would not "specifically hybridizes" to a nucleic acid having a sequence set forth in SEQ ID NO:1 under the hybridizing conditions recited in amended claim 121. Applicants point out that the 24 bp nucleotide sequences encoding the AFLDELKA octapeptide in gtfG and PSM antigen are actually only 75% identical (6 nucleotide mismatches out of the total 24 nucleotides). In light of the mismatch, the small 24 bp size of the probe and the hybridization condition recited in amended claims 100 and 101, the relevant 24 bp nucleotide sequence taught by Sulavik would be more inclined to hybridizes to a variety of other sequences, including, for example, the gtfG gene itself from *S. gordonii* and homologous genes from other organisms. Therefore, Sulavik fails to anticipate the claimed invention as set forth in amended claim 121.

In view of the above remarks, applicant maintains that claims 100-102, 113-115 and 120-121 satisfy the requirements of 35 U.S.C. §102(a).

Claim Rejections Under 35 U.S.C. §102(b)

The Examiner rejected claims 100-102, 113-115, and 120-123 under 35 U.S.C. §102(b) as allegedly anticipated by Palm et al. ("Palm"). According to the Examiner, Palm discloses the nucleotide sequence of virus SSV1 (pages 244-245) whose nucleotides encode amino acids 62-68 of

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 19

instant SEQ ID NO:2. The Examiner further states that a seven amino acid peptide is of sufficient length to be antigenic and this entire sequence can selectively hybridize to SEQ ID NO:1 under very low stringency conditions since the conditions recited in the instant claims are not defined.

The Examiner also rejected claims 100-102, 113-115, and 120-126 under 35 U.S.C. §102(b) as allegedly anticipated by Ramakrishnan et al. ("Ramakrishnan"). According to the Examiner, Ramakrishnan discloses the nucleotide sequence of ribosomal protein L18 from *Bacillus stearothermophilus* (page 883) whose nucleotides encode amino acids 101-107 of instant SEQ ID NO:2 (citing an attached sequence comparison and enlarged page at end of the March 12, 2003 Office Action). The Examiner states that a seven amino acid peptide is of sufficient length to be antigenic and this entire sequence can selectively hybridize to SEQ ID NO:1 under very low stringency conditions since the conditions recited in the instant claims are not defined.

In response to the Examiner's rejection to claims 100-102, but without conceding the correctness thereof, applicants note that claims 100 and 101 have been amended. Claims 100 and 101 now recite, in part, "wherein the probe so hybridizes under hybridization conditions which are either i) 65°C in hybridization buffer followed by washing twice in 1xSSPE/1% SDS and twice in 0.1xSSPE/1% SDS at 42°C or ii) 65°C in hybridization buffer and washing twice in 1xSSPE/0.5% SDS at 42°C and twice in 0.1xSSPE/0.5% SDS at 50°C."

Palm and Ramakrishnan fail to anticipate the claimed invention since they do not teach each and every element set forth in amended claims 100 and 101 and dependent claim 102.

Palm teaches a 15,465 bp nucleotide sequence encoding a virus SSV1 of the Archaeobacterium *Sulfolobus shibatae*. Ramakrishnan teaches a 363 bp nucleotide sequence encoding a ribosomal protein L18 from *Bacillus stearothermophilus*.

Neither Palm nor Ramakrishnan teach that a small 21 bp nucleotide sequence of the virus SSV1 of *S. shibatae* which encodes the LDELKAE heptapeptide or a small 21 bp nucleotide sequence of the ribosomal protein L18 from *B. stearothermophilus* which encodes the KEFGLDS heptapeptide, respectively, to "hybridize specifically" to a nucleic acid having a sequence set forth in SEQ ID NO:1 under the hybridization conditions now recited in amended claims 100 and 101. Applicants point out that the 21 bp nucleotide sequences encoding the LDELKAE heptapeptide in SSV1 and PSM antigen are actually only 71% identical (6 nucleotide mismatches out of the total 21 nucleotides). Applicants also point out that the 21 bp nucleotide sequences encoding the KEFGLDS heptapeptide of L18 and PSM antigen are not identical (1 nucleotide mismatch out of the total 21 nucleotides). In the light of the mismatch, the small size of the 21 bp nucleotide sequences taught by Palm and Ramakrishnan, and the hybridization condition recited in amended claims 100 and 101, the relevant 21 bp nucleotide sequences taught by

Applicants: Ron S. Israeli, et al.

Serial No.: 08/403,803

Filed: March 17, 1995

Page 21

Palm and Ramakrishnan would be more inclined to hybridize to a variety of other sequences, including, for example, the virus SSV1 from *S. shibatae* or the ribosomal protein L18 from *B. stearothermophilus*, respectively, and homologous genes from other organisms. Thus, the relevant 21 bp nucleotide sequences taught by Palm and Ramakrishnan would not "hybridize specifically" to a nucleic acid having a sequence set forth in SEQ ID NO:1. Therefore, Palm and Ramakrishnan fail to anticipate the claimed invention as set forth in amended claims 100 and 101 and dependent claim 102.

In response to the Examiner's rejection to claim 113, but without conceding the correctness thereof, applicants note that claim 113 has been amended. Claim 113 now recites, in part, "wherein the isolated nucleic acid is further characterized by being able to hybridize specifically to the nucleic acid sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto under hybridization condition of either i) 65°C in hybridization buffer followed by washing twice 1xSSPE/1% SDS and twice in 0.1xSSPE/1% SDS at 42°C or ii) 65°C in hybridization buffer and washing twice in 1xSSPE/0.5% SDS at 42°C and twice in 0.1xSSPE/0.5% SDS at 50°C."

Palm and Ramakrishnan fail to anticipate the claimed invention since it does not teach each and every element set forth in amended claim 113.

Neither Palm nor Ramakrishnan teach that a small 21 bp nucleotide sequence of the virus SSV1 of *S. shibatae* which encodes the LDELKAE heptapeptide or a small 21 bp

nucleotide sequence of the ribosomal protein L18 from *B. stearothermophilus* which encodes the KEFGLDS heptapeptide, respectively, to "hybridize specifically" to a nucleic acid having a sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto under the hybridizing conditions now recited in amended claim 113. Again, applicants point out that the 21 bp nucleotide sequences encoding the LDELKAE heptapeptide in SSV1 and PSM antigen are actually only 71% identical (6 nucleotide mismatches out of the total 21 nucleotides).. Applicants also point out that the 21 bp nucleotide sequences encoding the KEFGLDS heptapeptide of L18 and PSM antigen are not identical (1 nucleotide mismatch out of the total 21 nucleotides). In the light of the mismatch, the small size of the 21 bp nucleotide sequences taught by Palm and Ramakrishnan, and the hybridization condition recited in amended claim 113, the relevant 21 bp sequences taught by Palm and Ramakrishnan would be more inclined to hybridize to a variety of other sequences, including, for example, the virus SSV1 from *S. shibatae* or the ribosomal protein L18 from *Bacillus stearothermophilus*, respectively, and homologous genes from other organisms. Thus, the relevant 21 bp nucleotide sequences taught by Palm and Ramakrishnan, respectively, would not "hybridize specifically" to a nucleic acid having a sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto. Therefore, Palm and Ramankrishnan fails to anticipate the claimed invention as set forth in amended claims 113.

In response to the Examiner's rejection to claims 114 and 115, but without conceding the correctness thereof,

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 23

applicants note that claims 114 and 115 have been amended. Claims 114 and 115 now recite, in part, "(B) characterized by antigenicity and the presence within it of each of the following sequences: (a) Asp-Glu-Leu-Lys-Ala-Glu (SEQ ID NO: 35); (b) Asn-Glu-Asp-Gly-Asn-Glu (SEQ ID NO: 36); and (c) Lys-Ser-Pro-Asp-Glu-Gly (SEQ ID NO: 37)."

Palm and Ramakrishnan fail to anticipate the claimed invention since it does not teach each and every element set forth in amended claims 114 and 115.

Palm teaches a nucleic acid sequence encoding the LDELKAE heptapeptide as alleged by the Examiner. Ramakrishnan teaches a nucleic acid sequence encoding the KEFGGLDS heptapeptide as alleged by the Examiner. In order for Palm or Ramakrishnan to anticipate the claimed invention as set forth in amended claims 114 and 115, the relevant 21 bp nucleotide sequences taught by Palm or Ramakrishnan must have a nucleic acid sequence which encodes for an antigenic PSM antigen polypeptide containing SEQ ID NO:35, SEQ ID NO:36 and SEQ ID NO:37. The relevant 21 bp nucleotide sequences taught by Palm and Ramakrishnan do not have a nucleic acid sequence encoding a polypeptide sequence of SEQ ID NO:35, SEQ ID NO:36 and SEQ ID NO:37. Thus, Palm and Ramakrishnan do not teach an isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide characterized by the presence within it of each of the following sequences: SEQ ID NO:35, SEQ ID NO:36 and SEQ ID NO:37. Therefore, Palm and Ramakrishnan fail to anticipate the claimed invention as set forth in amended claims 114 and 115.

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 24

In response to the Examiner's rejection to claim 120, but without conceding the correctness thereof, applicants note that claim 120 has been amended. Claim 120 now recites, in part, "and the antigenic fragment comprises consecutive amino acids having a sequence selected from the group consisting of SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37 and SEQ ID NO:38, provided that if the antigenic fragment comprises consecutive amino acids having the sequence set forth in SEQ ID NO:35, the antigenic fragment further comprises at least one additional amino acid present in SEQ ID NO:2, provided that the sequence of the antigenic fragment is included within SEQ ID NO:2."

Palm and Ramakrishnan fail to anticipate the claimed invention since it does not teach each and every element set forth in amended claims 120.

Palm teaches a nucleic acid sequence encoding the LDELKAE heptapeptide as alleged by the Examiner. Ramakrishnan teaches a nucleic acid sequence encoding the KEFGLDS heptapeptide as alleged by the Examiner. In order for Palm or Ramakrishnan to anticipate the claimed invention as set forth in amended claims 120, the relevant 21 bp nucleotide sequence taught by Palm or Ramakrishnan must have a nucleic acid sequence of an antigenic fragment of prostate specific membrane antigen comprising consecutive amino acids having a sequence selected from the group consisting of SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37 and SEQ ID NO:38, provided that if the antigenic fragment comprises consecutive amino acids having the sequence set

forth in SEQ ID NO:35, the antigenic fragment further comprises at least one additional amino acid present in SEQ ID NO:2, provided that the sequence of the antigenic fragment is including within SEQ ID NO:2. Palm and Ramakrishnan do not teach the above. Rather, Palm and Ramakrishnan teach that its relevant 21 bp nucleotide sequences, which encodes for the LDELKAE or KEFGLDS heptapeptide, respectively, do not encode for a polypeptide containing either SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37 or SEQ ID NO:38, provided that if the antigenic fragment comprises consecutive amino acids having the sequence set forth in SEQ ID NO:35, the antigenic fragment further comprises at least one additional amino acid present in SEQ ID NO:2. Therefore, Palm and Ramakrishnan fail to anticipate the claimed invention as set forth in amended claim 120.

In response to the Examiner's rejection to claim 121, but without conceding the correctness thereof, applicants note that claim 121 now recite, in part, "wherein the isolated nucleic acid is further characterized by being able to hybridize to the nucleic acid sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto under hybridization conditions of either i) 65°C in hybridization buffer followed by washing twice in 1xSSPE/1% SDS and twice in 0.1xSSPE/1% SDS at 42°C or ii) 65°C in hybridization buffer and washing twice in 1xSSPE/0.5% SDS at 42°C and twice in 0.1xSSPE/0.5% SDS at 50°C."

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 26

Palm and Ramakrishnan fail to anticipate the claimed invention since it does not teach each and every element set forth in amended claims 121.

Again, the relevant 21 bp nucleotide sequences taught by Palm and Ramakrishnan, respectively, would not "specifically hybridizes" to a nucleic acid having a sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto under the hybridizing conditions recited in amended claim 121. Again, applicants point out that the 21 bp nucleotide sequences encoding the LDELKAE heptapeptide in SSV1 and PSM antigen are actually only 71% identical (6 nucleotide mismatches out of the total 21 nucleotides). Applicants also point out that the 21 bp nucleotide sequences encoding the KEFGLDS heptapeptide of L18 and PSM antigen are not identical (1 nucleotide mismatch out of the total 21 nucleotides). In the light of the mismatch, the small size of the 21 bp nucleotide sequences taught by Palm and Ramakrishnan, and the hybridization condition recited in amended claim 113, the relevant 21 bp sequences taught by Palm and Ramakrishnan would be more inclined to hybridize to a variety of other sequences, including, for example, the virus SSV1 from *S. shibatae* or the ribosomal protein L18 from *B. stearothermophilus*, respectively, and homologous genes from other organisms. Thus, the relevant 21 bp nucleotide sequences taught by Palm and Ramakrishnan, respectively, would not "hybridize specifically" to a nucleic acid having a sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto. Therefore, Palm and Ramakrishnan

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 27

fails to anticipate the claimed invention as set forth in amended claim 121.

In response the Examiner's rejection of multiply dependent claims 122 and 123 in light of Palm, and multiply dependent claims 122-126 in light of Ramakrishnan, applicants note that independent claims 113-115 and 120 have been amended. Based on the arguments mentioned above for amended claims 113-115 and 120, Palm and Ramakrishnan fail to anticipate the claimed invention as set forth in multiply dependent claims 122 and 123 and multiply dependent claims 122-126, respectively.

In view of the above remarks, applicant maintains that claims 100-102, 113-115 and 120-126 satisfy the requirements of 35 U.S.C. §102(b).

Summary

Applicant maintains that the claims pending are in condition for allowance. Accordingly, allowance is respectfully requested.

If a telephone conference would be of assistance in advancing prosecution of the subject application, applicant's undersigned attorney invites the Examiner to telephone him at the number provided below.

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
Filed: March 17, 1995
Page 28

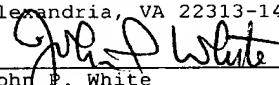
No fee, other than the \$475.00 fee for a three-month extension of time, is deemed necessary in connection with the filing of this Amendment. However, if any additional fee is required, authorization is hereby given to charge the amount of such fee to Deposit Account No. 03-3125.

Respectfully submitted,



John P. White
Registration No. 28,678
Attorney for Applicants
Cooper & Dunham LLP
1185 Avenue of the Americas
New York, New York 10036
(212) 278-0400

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to:
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

 6/15/04
John P. White Date
Reg. No. 28,678